



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/873,163	06/02/2001	Steven Olson	C01-010	3061

23459                      7590                      07/23/2004

ARTHUR J. O'DEA  
LEGAL DEPARTMENT  
COGNEX CORPORATION  
ONE VISION DRIVE  
NATICK, MA 01760-2077

EXAMINER

ROSWELL, MICHAEL

ART UNIT                      PAPER NUMBER

2173

DATE MAILED: 07/23/2004

//

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

<b>Application No.</b> 09/873,163	<b>Applicant(s)</b> OLSON ET AL.	
<b>Examiner</b> Michael Roswell	<b>Art Unit</b> 2173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on 05 April 2004.
- 2a)  This action is **FINAL**.
- 2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4)  Claim(s) 1-34 is/are pending in the application.  
4a) Of the above claim(s),    is/are withdrawn from consideration.
- 5)  Claim(s)    is/are allowed.
- 6)  Claim(s) 1-34 is/are rejected.
- 7)  Claim(s)    is/are objected to.
- 8)  Claim(s)    are subject to restriction and/or election requirement.

**Application Papers**

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on    is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \*    c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No.   .  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date g.
- 4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date.
- 5)  Notice of Informal Patent Application (PTO-152)
- 6)  Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, 10-18, and 20-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Jain et al (U.S. Patent No. 5,745,126), hereinafter Jain.

3. In regards to claim 1, Jain discloses a machine vision system having a plurality of vision processors (Figure 15 and Column 31, Lines 36-37) and at least one user interface (Figure 4). A method for instructing the interface in communication with one processor to communicate with a second processor is given (Column 31, Lines 66-67 and Column 32, Lines 1-2). A link function (Column 31, Lines 55-57) establishes communication between a vision processor and the user interface and can be activated to issue instructions to establish communication with another vision processor (Column 32, Lines 3-9).

4. In regards to claims 2-3, Jain activate a vision processor control (Fig. 4 and Column 22, Lines 6-7) similar to claim 2, and allow for a user to click (Column 36, Lines 40-43) on a graphical representation of the control (Fig. 4).

5. In regards to claim 4, Jain shows a graphical representation of a vision processor as a text string (Fig. 4). It is inherent in the art that text strings can be modified to a number of various styles, for example, bold type, italics, underline, strike-thru, etc.

6. In regards to claims 5-7, Jain describe the providing of an activation signal to the control, and how the signal is initiated by the user (Column 22, Lines 1-2), where the "user commands"

initiate the signal, which is treated as "queries to the system". User interaction is through the "interactive video interface" (Column 22, Line 4).

7. In regards to claims 10 and 12, Jain disclose how the activation signal is initiated by an external event and a change in state of a sensor (Column 26, Lines 53-55), where the external event is the movement of an object in the field of vision, and the change in state of the sensor is its "tracking" ability. The activation of the control is done by the "camera hand-off" (Column 8, Lines 2-5).

8. In regards to claim 11, Jain allow for the above external event to be an industrial process event (Column 7, Lines 42-49) where the viewer is likened to a "broadcast video director" and the industrial process event is that director's choice to initiate the activation signal.

9. In regards to claim 13, Jain discloses a method for initiating the activation signal by programmatic decision (Column 17, Lines 20-23), where "the programmed reasoning system" does the initiating.

10. In regards to claim 14, Jain has been shown to use an external event to initiate an activation signal, and the user is able to activate another vision processor (Column 22, Lines 6-7).

11. In regards to claim 15, the link function of Jain is included in the described execution sequence (Column 31, Lines 48-67) of "master-slave information exchange" (Column 31, Line 46).

12. In regards to claims 16-18, protocols such as TCP/IP are well known in the art to close the communication connection between two workstations upon exhausting sent data. The Examiner takes OFFICIAL NOTICE of these teachings. Therefore, it would be obvious to terminate connection from the first VP upon the establishment of a new connection, due to the fact that the first VP would be finished sending data. Jain also describes a dynamic, continually

updated display of a remote vision processor connected to the user interface (Column 32, Lines 52-58).

13. In regards to claim 20, Jain discloses a machine vision system having a plurality of vision processors (Figure 15 and Column 31, Lines 36-37) and at least one user interface (Figure 4). A method for instructing the interface in communication with one processor to communicate with a second processor is given (Column 31, Lines 66-67 and Column 32, Lines 1-2). Jain also provide a graphical representation included in the user interface (Fig. 4) adapted to initiate an activation signal that instructs the interface to establish communication with another vision processor (Column 22, Lines 1-2).

14. In regards to claims 21-22 and 31-32, Jain states, "several workstations on the network act as slaves which process frames based on the master's request", at col. 12, lines 19-21. Thus, Jain teaches connecting a plurality of vision processors over a network. Furthermore, TCP/IP protocol is well known in the art, and would have been an obvious choice for network communication.

15. In regards to claims 23-24, Jain activate a vision processor control (Fig. 4 and Column 22, Lines 6-7) similar to claim 2, and allow for a user to click (Column 36, Lines 40-43) on a graphical representation of the control (Fig. 4).

16. In regards to claim 25, Jain shows a graphical representation of a vision processor as a text string (Fig. 4). It is inherent in the art that text strings can be modified to a number of various styles, for example, bold type, italics, underline, strike-thru, etc.

17. In regards to claim 26, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include a spreadsheet in the user interface of Jain to aid in control of the invention. Applicant has not disclosed that spreadsheet control provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in

the art, furthermore, would have expected Applicant's invention to perform equally well with the control interface of Jain because the claimed spreadsheet offers no advantages over the present system. Jain has been shown *supra* to teach a graphical representation to respond to user action to instruct a UI to establish communication with a second VP, enabling continually updated image display, taught as vision processor control (Fig. 4 and Column 22, Lines 6-7) allowing for a user to click (Column 36, Lines 40-43) on a graphical representation of the control (Fig. 4) to switch between camera views.

18. In regards to claim 27, protocols such as TCP/IP are well known in the art to close the communication connection between two workstations upon exhausting sent data. The Examiner takes OFFICIAL NOTICE of these teachings. Therefore, it would be obvious to terminate connection from the first VP upon the establishment of a new connection, due to the fact that the first VP would be finished sending data.

19. In regards to claims 28-29, Jain shows show a graphical representation of a vision processor as a text string (Fig. 4). It is inherent in the art that text strings can be modified to a number of various styles, for example, bold type, italics, underline, strike-thru, etc. Furthermore, it can be seen from Fig. 4 that buttons are used in the interface to facilitate control.

Implementing icons within interface elements such as buttons is very well known in the art, and would have been an obvious modification of the invention.

20. In regards to claim 30, Jain discloses a machine vision system having a plurality of vision processors (Figure 15 and Column 31, Lines 36-37) and at least one user interface (Figure 4). Jain also provide a graphical representation included in the user interface (Fig. 4) adapted to initiate an activation signal that instructs the interface to establish communication with another vision processor (Column 22, Lines 1-2). The system is shown to be in communication with a first vision processor (Column 31, Lines 42-43).

Art Unit: 2173

21. In regards to claim 33, Jain allow for a user to click (Column 36, Lines 40-43) on a graphical representation (Fig. 4) adapted to respond to user action that instructs the user interface to establish communication with a second vision processor.

22. In regards to claim 34, Jain shows a graphical representation of a vision processor as a text string (Fig. 4). It is inherent in the art that text strings can be modified to a number of various styles, for example, bold type, italics, underline, strike-thru, etc.

***Claim Rejections - 35 USC § 103***

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jain.

25. In regards to claim 27, protocols such as TCP/IP are well known in the art to close the communication connection between two workstations upon exhausting sent data. The Examiner takes OFFICIAL NOTICE of these teachings. Therefore, it would be obvious to terminate connection from the first VP upon the establishment of a new connection, due to the fact that the first VP would be finished sending data.

26. In regards to claims 28-29, Jain shows show a graphical representation of a vision processor as a text string (Fig. 4). It is inherent in the art that text strings can be modified to a number of various styles, for example, bold type, italics, underline, strike-thru, etc. Furthermore, it can be seen from Fig. 4 that buttons are used in the interface to facilitate control.

Implementing icons within interface elements such as buttons is very well known in the art, and

would have been an obvious modification of the invention.

27. Claims 8-9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jain and Blowers et al (U.S. Patent No. 6,298,474).

28. In regards to claims 8 and 9, Jain have been shown to describe a machine vision system in communication with a vision processor having a method for establishing communication with a second vision processor, a link function that activates a vision processor control, and an activation signal for such a control that is initiated by a user via the user interface.

29. Jain does not teach the inclusion of a check box or a radio button into the above user interface.

30. Blowers et al do teach the inclusion of a check box or a radio button into the user interface of a machine vision system (Figure 8).

31. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to modify the teachings of Jain to include those of Blowers et al to obtain the method described by Jain above that includes a check box or radio button in its user interface.

32. Motivation for such a combination is given by Blowers et al, who state, "the method further includes the step of displaying the graphical representations of possible hardware and machine vision tasks. Then, the method includes receiving commands from a user to select desired hardware operating parameters corresponding to desired hardware and machine vision graphical representation and its associated first control program corresponding to a desired machine vision task" (Column 3, Lines 26-33). Further motivation for such a combination is given by Blowers et al' Fig. 8, which depicts a machine vision user interface with a check box. It is well-known in the art that there are many objects for the selection of items in a user interface, such as radio buttons, check boxes, list boxes, etc. The examiner takes OFFICIAL NOTICE of



these teachings as reference material.

33. In regards to claim 19, Jain have been shown to describe a machine vision system in communication with a vision processor having a method for establishing communication with a second vision processor.

34. Jain do not allow for a user to configure the vision processor using the user interface.

35. It can easily be seen from Figures 7-9 of Blowers that a user interface has been provided. Furthermore, the vision tools of Blowers, starting at col. 9, line 35, teach user interface methods for customizing images provided by a camera, and thus allows to "configure" the VP to acquire desired features.

36. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to modify the teachings of Jain with those of Blowers et al to obtain a machine vision system in communication with a vision processor having a method for establishing communication with a second vision processor that allows a user to configure the vision processor using the user interface.

Motivation for such a combination is given by Blowers et al, who state the inclusion of such configuration: "there is illustrated schematically a machine vision system generally indicated at **20** generally of the type which can be supported by the method and system of the present invention." See Blowers, Column 7, Lines 40-44.

### ***Response to Arguments***

Applicant's arguments filed 5 April 2004 have been fully considered but they are not persuasive.

Regarding arguments to claim 1 (pages 11-12), Applicant in the specification for the invention discloses that a vision processor (VP) is used for "at least processing and interpreting images", and a user interface (UI) for "at least enabling a user to interact with and/or control a VP". Under these definitions, the "master" and "slave" computers of Jain are vision processors due to their image processing, and the master computer is easily seen to be the user interface for controlling vision processors. As to Applicant's argument that "minimal image information is exchanged" between the central master computer and the remote slave computers, the claim limitation is that of "a continually updated image display", which states nothing about the volume of information transferred or the level on which the central and remote computers communicate. Furthermore, since it has been established that the master computer is a VP, the ability of the master computer to initiate communication between itself and a slave computer denotes a link function establishing connection between the first VP and a second VP.

Regarding Applicant's argument of differing architecture (pages 12-13), the argued ability of any VP to control any other VP is never expressly claimed. Applicant's argument of "Jain is silent on any computer being used to mediate control" fails to note the user interface of Fig. 4. A user interface need not be a computer unto itself, and such a computer is not claimed.

It is the contention of the Examiner that the terminology "master" and "slave" used to describe the computers of Jain does not detract from the fact that they may be used for "at least processing and interpreting images", and therefore act as vision processors.

Regarding Applicant's arguments to the rejection of claims 2-3, Applicant does NOT claim "real-time" communication. Furthermore, real-time communication is taught by Jain, at col. 17, lines 24-30. Moreover, Jain teaches the switching of camera views by way of a user

interface "camera list", which most certainly activates communication between the master computer and slave computer, and therefore executes as a "link function".

Regarding Applicant's arguments to the rejection of claim 4, Jain teaches the use of cameras controlled by slave computers, and thus to select a camera in the user interface of the master computer is to open communication between a master and a slave, or from one vision processor to a second.

Applicant's resulting arguments that Jain fails to teach communication between a first VP and a second VP, and that Jain fails to teach executing a "link function" are moot.

Regarding Applicant's arguments to the rejection of claims 10 and 12 (page 16), it is inherent that sensors are used to dynamically track perceived objects between Jain's "coverage zones" (col. 26, lines 53-60).

Regarding Applicant's arguments to claim 11 (page 16), Applicant contends Jain is silent on an "industrial process event". The specification does not adequately describe the limitations of an "industrial process event", and is therefore subject to the broadest reasonable interpretation. The Examiner contends that television broadcasting may be viewed as an industry, and hence the process of Jain teaches "industrial process events".

Regarding Applicant's arguments to claim 13 (page 17), the Examiner agrees that the cited material does not sufficiently teach executing the link function through a programmatic

decision. However, the above-cited "tracking ability" of Jain is a dynamic and automatic feature, and thus is initiated by programmatic decision.

Regarding Applicant's arguments to claim 14 (page 17), Applicant fails to claim "activating any VP". The argument is rendered moot.

Regarding Applicant's arguments to claim 16, protocols such as TCP/IP are well known in the art to close the communication connection between two workstations upon exhausting sent data. Therefore, it would be obvious to terminate connection from the first VP upon the establishment of a new connection, due to the fact that the first VP would be finished sending data.

Regarding Applicant's arguments to claim 19 (page 26), it can easily be seen from Figures 7-9 of Blowers that a user interface has been provided. Furthermore, the vision tools of Blowers, starting at col. 9, line 35, teach user interface methods for customizing images provided by a camera, and thus allows to "configure" the VP to acquire desired features.

Regarding Applicant's arguments to claims 21-22 and 31-32 (page 16), Jain states, "several workstations on the network act as slaves which process frames based on the master's request", at col. 12, lines 19-21. Thus, Jain teaches connecting a plurality of vision processors over a network. Furthermore, TCP/IP protocol is well known in the art, and would have been an obvious choice for network communication.

Regarding Applicant's arguments to claims 26-29 (page 27), at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include a spreadsheet in the user interface of Jain to aid in control of the invention. Applicant has not disclosed that spreadsheet control provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the control interface of Jain because the claimed spreadsheet offers no advantages over the present system.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Jain to obtain the invention as specified in claim 26-29.

Duplicate arguments for similarly structured claims (i.e. pp. 19-24) are considered by the Examiner to have been sufficiently responded to.

### ***Conclusion***

The prior art made of record on form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. § 1.111(c) to consider these references fully when responding to this action. The documents cited therein teach the control of multiple cameras in a machine vision system of one or more user interfaces.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Roswell whose telephone number is (703) 305-5914. The examiner can normally be reached on 8:30 - 6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached on (703) 308-3116. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Roswell  
6/28/2004

  
CAO (KEVIN) NGUYEN  
PRIMARY EXAMINER